South Carolina
Energy Advisory Committee
Minutes

October 26, 2005
(Approved May 16, 2006)

Attached is a list of committee members and staff in attendance.

The Energy Advisory Committee (EAC) meeting began at 1:00 p.m. The meeting was held at 1201 Main Street, 17th floor conference room, SC Chamber of Commerce. Public notification of this meeting was done in compliance with State law. The topics of discussion are arranged under each agenda item in the order that they occurred.

I. Introduction & Welcome

Chairman Reid greeted everyone and called the meeting to order.

II. Approval of Minutes from May 18,2005, Meeting

There were no comments, questions or changes given to the minutes of the May 18, 2005 minutes. Chairman Reid declared the minutes approved.

III. SC Energy Office Update

Mr. Mitch Perkins reported to the Committee that the Office has moved from the 10th floor to the 4th floor, Suite 430 of the Capitol Center Building. This move is a result of the Budget and Control Board's consolidation of offices, and will generate cost savings of about a $1 million per year.

He then referred to the Energy Statistical Profile and said that this report, which has a great deal of information that will be helpful during times of high energy prices, can be downloaded from the SCEO web site at: www.energy.sc.gov.

He then announced a meeting that the SC Energy Office will be hosting on Tuesday, November 1, 2005, for the Southeastern Energy Efficiency Alliance (SEEA). SEEA is a non-profit organization based in Atlanta. SEAA is affiliated with the Alliance to Save Energy of Washington, DC and the Department of Energy. This organization is forming an alliance among ten of the Southeastern states to put together a comprehensive plan on how to better address energy efficiency, the environment, the economy and other aspects of our region. South Carolina will be the first state to host an outreach meeting. The Energy Advisory Committee was encouraged to attend. Mr. Caughman asked how this organization relates to the Southern States Energy Board and other organizations. Mr. Perkins stated that this Alliance is being formed so they can see relationships between the organizations and how the efforts may be combined into other programs.

Mr. Jim Painter indicated that he would not be able to attend the meeting on November 1st, but would appreciate a brief summary with feedback from the meeting. There was a brief discussion regarding the direction of the SEEA organization, and assurance that the Committee will receive an update from the office.

Chairman Reid asked the members to review the Committee rosters that were included in the EAC member packet. He asked members to let D'Juana Wilson know if there are any changes to their contact information.

Mr. David Logeman made comments, and asked a question regarding the Statistical Profile. He expressed the profile is a document that is put together very well and is a great informational tool. He noted that in the Electricity Section, there is one thing that needs to be pointed out in the narrative concerning all the tables where the number of customers and amount of revenue is shown. The tables divide the revenue by the customers and refer to that as a "rate per kilowatt hour" when in actuality it is not a rate at all but "revenue per kilowatt hour".

In the table for Industrial sales, because of the disparity in what different utility companies define as an industrial customer; some of the numbers could be misleading. For the electric cooperatives, within the RUS classification of accounts, there is no classification called industrial. He said that a lot of what is shown in many of the cooperative numbers is actually what SCE&G, or Duke, or any other investor-owned utility would consider being commercial accounts. He is aware that the SC Energy Office staff would not have this information, but, in the industrial classification information, there should be some type of statement or acknowledgement that statistics like this need to be used very carefully due to differences in reporting. Looking at this
as reported does not reflect a fair representation of what industrial revenue is for the cooperative systems, and possibly the municipalities as well. He would like to suggest that in the next publication, there be some notice given about using statistics generally, and possible limitations in making direct comparisons in the tables.

There was a brief discussion following and it was agreed that in future publications, footnotes will be used for all tables.

IV. SC Energy Office Annual Report

Dr. John Clark stated that traditionally at the Fall meeting, the SC Energy Office presents its official report to the Energy Advisory Committee of activities over the last fiscal year. This year's report is for the period July 1, 2004 – June 30, 2005. He highlighted the following information in the Annual Report:

He began with the Facilities area, which focuses on saving energy and money used in buildings. Dr. Clark stated that the ConserFund Loan Program has 29 loans in the portfolio. The improvements realized from these loans will save taxpayers about $30 million over the life cycle of the loans.

He reported the School Energy Efficiency Improvement grant program is ending. This program began in 2000, and made grants to low-income school districts up to $150,000 to do lighting and other retrofits. The office is working on completing work for projects that were previously awarded. Projects were completed in four school districts last year. Those projects alone will save them about $1 million over their life cycle. Over the life of the program, the office has assisted 24 school districts and awarded $2.8 million.

Dr. Clark discussed energy accounting software for public institutions. He reported that the software has been changed, and the school districts, state agencies and colleges have been asked to report their energy usage through a system called Utility Direct. The office is working with a company called School Dudes. This is a web-based reporting system, and there are 65 public entities signed up at the present time. The program will allow more manipulation with data. The data used from this program is used for the report on Energy Use In South Carolina's Public Facilities, often called the Consumption Report. The most recent report shows that public facilities in South Carolina spent $196 million on energy in FY 2004. Report findings indicate that through greater efficiency, a savings of $13.4 million has been realized in 2004, compared to the 1998 base year.

The Rewards for Higher Education Energy Efficiency Program, RHEEEP, is phasing out due to lack of funding. Last year, $75,000 was awarded and this year the office is completing projects that were started last year. This program has assisted 12 colleges and universities over the life of the program.

Dr. Clark discussed technical workshops that were held and stated that the office is working on getting measurements on savings that resulted from these workshops. Some workshops support the Association of South Carolina Energy Managers (ASCEM). New this year was the training for the Certified Energy Manager (CEM), which is a national certification. The office worked with ASCEM to have sessions throughout the summer. Nineteen people took the training and six passed the exam. Nationally, less than 20 percent passed the exam, indicating that the CEM training was a success. The training will be offered again next year.

Dr. Clark reported that the Leadership in Energy and Environmental Design (LEED) program has been successful in establishing the SC Chapter of the US Green Building Council. There is also an active EarthCraft House program. There are a fair amount of energy efficient homes being built in the Charleston and Greenville areas. He stated that in a year's time there will be energy savings to report as a result of these programs.

Dr. Clark stated that Energy Audits are a core function of the office. Thirteen audits were done last year. Some of the audits were performed by staff and some by contractors. Mr. Lou Krause asked about the number for each and Dr. Clark responded that approximately ten were done with contractors, and three by the staff. He indicated that in the future, staff will be conducting more of the audits for public facilities.

Dr. Clark stated that Industries of the Future is a grant program that has been very successful in working with the SC Manufacturing Extension Partnership in getting federal grants. In the last three years, three grants were awarded totaling $378,000.

Dr. Clark indicated that Chantal Fryer will discuss performance contracting since there are a couple of new grants in this area, and her presentation will cover this information.

He then stated that in the Renewable Energy section, a grant was awarded to Santee Cooper to develop a map of the state for wind power to determine where wind power may be feasible in South Carolina.

Dr. Clark stated he believes that Landfill Gas to Energy is South Carolina's biggest renewable energy success story. Santee Cooper has two sites running and two sites under construction. He also reported that BMW and Palmetto Landfill in Greer are piping landfill gas 10 miles to the BMW facility.

Dr. Clark reported that solar will be more competitive with fossil fuel and electric gas rates going up. He also reported that with the Federal Energy Bill and the incentives that are being offered, solar will be more attractive.

Dr. Clark said that the office is working on doing an inventory of biomass energy resources. A federal grant was received to form a SC Biomass Council to bring together persons to market biomass energy in South Carolina. He stated that there is an on-line inventory on the Energy Office website on biomass energy resources. He stated that one of the tasks of the Biomass Council is to determine how South Carolina can produce biomass energy.

Dr. Clark then stated that South Carolina is using more biodiesel fuels. The Truck Stop Electrification Program has been a big success and the Committee has received presentations in the past on this project. He reported that the E85 station in Anderson alone has saved over 170,000 gallons of diesel fuel and emissions have been reduced by 1,780 metric tons. Dr. Clark feels that Truck Stop Electrification will continue to be a great success.

Dr. Clark stated that the Public Information program is a continual success of the office and the website is a popular source of information.

He reported that information on the Forecast Model will be presented later in the meeting.

He said that the Energy Use Statistical Profile is distributed to every school library in the state and is available on the SCEO website.

Dr. Clark stated the office is extremely proud of the Energy Education program run by Mrs. Renee' Daggerhart, Public Information Coordinator. He reported that over the past year, over 1,000 teachers were trained with the curriculum, "Action for a Cleaner Tomorrow."

He briefly discussed the Radioactive Waste Disposal Program, which is different from other Energy Office activities.

Dr. Clark reported that the last page of the Annual Report is summary data that may be of interest to the members.

After this detailed discussion on the Annual Report, there were no additional questions from the members.

Chairman Reid asked how South Carolina was doing as compared to the other states in receiving grant awards. Dr. Clark reported that out of nine states in the Southeast region, South Carolina is second in receiving grants and per capita money. Chairman Reid stated that over the past few years the Energy Office has shown significant numbers in grant awards.

This discussion led into Ms. Chantal Fryer's presentation on the Special Projects grants.

V. Special Projects Update

Ms. Fryer began her discussion by stating that the SC Energy Office is the main entity through which special project grants are submitted to DOE. The SC Energy Office garnered $289,616 in federal funds for five projects under the State Energy Program Special Project grant funding. Special Projects funding is a nationwide, competitive process promoted by DOE to enable projects in the areas of energy efficiency and renewable energy. As part of DOE's Southeast Regional Office, the Energy Office participated in the 2005 round of competition for funding and received 16 percent of the 32 awards in the region, and 13 percent of the $2.3 million in funding. Two of the awards for South Carolina were in the Clean Cities category for the promotion of alternative fuels and infrastructure, two were in the Rebuild America category for promotion of performance contracting for public buildings and one was in the Industries of the Future category to target the largest energy industrial users in the state for energy savings opportunities and training.

Ms. Fryer gave the following information on the project awards:

York Technical College - Ethanol Refueling Infrastructure: A total of $25,191, with a cost share of $18,500 for a total project cost of

$43,691 to establish an ethanol (E85) fueling station in Rock Hill, SC, to support the use of E85 in the existing and future fleets of the City of Rock Hill, York County Natural Gas, the City of Clover, Palmetto Clean Fuels Coalition and York Technical College.

PSCFC – Clean Cities Coalition Support –Palmetto State Clean Fuels Coalition: A total of $20,000 in federal funds with a cost share of $27,822, for a total project cost of $47,822 for a coordinator support grant for the Palmetto State Clean Fuels Coalition (PSCFC). The purpose of this project is to ensure continued coordination and staffing of the PSCFC by the Catawba Regional Council of Governments.

SCMEP – South Carolina Large Energy User Project: A total of $100,000 in funds with a cost share of $66,933 for a total project cost of $166,933 for a project with the South Carolina Manufacturing Extension Partnership to a new energy project called the South Carolina Large Energy User Project. The objective of this project is to deploy SCMEP's energy resources to target the highest energy-using manufactures in South Carolina and provide energy assessments, training and assistance for the purpose of significantly reducing non-value-added energy use in the state.

NAESCO: Promoting State Public Building Programs: A total of $98,000 with a cost share of $33,533 for a total project cost of $131,533 for a project to assist public buildings in reducing their energy consumption. NAESCO will produce an analysis of successful public building programs; and, develop and deliver a training program for state energy office staff and public facility managers that will lead to certification as an energy performance contract specialist.

SCEO Rebuild America: Promoting Performance Contracting in Public Colleges and Universities: A total of $46,425 in federal funds with a cost share of $18,460 for a total project cost of $64,885 for a project to provide public colleges and universities information to help them take advantage of the benefits of performance contracting while avoiding some of the pitfalls inherent in the performance contracting process. Case studies will be developed on six public institutions of higher education in the region who have done performance contracting projects.

Ms. Fryer stated that usually DOE sets aside anywhere from $14 - $18 million and grant awards are based on the number of projects that come in and the project needs.

Mr. Acker asked if grants were aimed at public institutions and if so, can the information be shared with private institutions. Ms. Fryer responded that all grants are made public as soon as they are announced. The information is posted on the SCEO website and distributed at meetings and workshops.

Dr. Clark added that most of the programs referred to for public institutions are actually for both public institutions and for private, non-profit organizations. Most of the programs that the

office runs, including the energy audit programs and loan programs, are available to 501-3C private colleges and universities.

Mr. Jim Painter added that from the industry point of view, it takes time on behalf of the industries to search the Internet to find about grants. He feels that it is up to the institutions to seek the funding for programs they are interested in funding.

The Committee was encouraged to contact the staff of the Energy Office for any potential projects they may be interested in.

VI. Presentation on Sustainable Energy

Ms. Nancy Vinson gave the attached presentation to the Committee: Sustainable Building Products, Inc., Manufacturer of Faswall®.

Please click here for a complete copy of Ms. Vinson's presentation.

Ms. Vinson reported that by using waste wood as the basic raw material, Faswall takes an environmental problem and turns it into an efficient and strong building solution. Faswall is made of 85 percent recycled wood chips from waste shipping pallets. The chips are treated with a natural clay solution, mixed with cement and formed into conveniently-sized interlocking blocks.

Ms. Vinson's presentation illustrated homes built with the material. She reported that the material is: fast, strong, energy efficient, fire resistant, termite and rot resistant, has lower costs for labor and is environmentally friendly.

Faswell is comparably priced to traditional stick-built construction ($4.70/sq ft for the wall forms). She stated that builders realize lower labor costs. Homeowners realize tremendous energy savings and lower repair/upkeep costs. There is also the potential for lower insurance premiums.

In closing, Ms. Vinson reported Faswall to be the perfect building system for the Southeast. It is energy efficient for hot summers; strong enough to withstand hurricanes; rot and termite resistant in high humidity; quick construction to meet housing demand and low labor costs; consistent pricing that does not fluctuate with the rising price of lumber; is fireproof; and is an environmentally friendly product.

She reported that there is a small manufacturer of Faswall in Walterboro, South Carolina.

A brief discussion followed Ms. Vinson's presentation.

VII. 2005 Federal Energy Bill

Ms. Renee Daggerhart reported that on July 29, 2005, Congress passed the first comprehensive energy legislation in over a decade. This historic bill follows many of the principles outlined by President

Bush to strengthen our nation's electrical infrastructure, reduce our dependence on foreign oil, increase conservation and expand the use of clean renewable energy.

While the bill will help address our long-term challenges, there are many provisions that will help South Carolina families save energy – and money too.

Many of the benefits for consumers are federal income tax credits that will become available January 1, 2006. Tax credits are better than tax deductions and give taxpayers dollar-for-dollar reductions on his or her taxes.

Ms. Daggerhart then explained in detail popular points of the bill for improvements to: the home; the car; in government; energy efficiency conservation matters - the immediate impact on the public with the expansion of daylight-saving time; and utility incentives.

There was a brief discussion following the presentation. The matter of net metering was discussed and the issue of what constitutes an electric utility. It was determined that there are still some "gray" areas of the legislation.

Staff was asked if they would be available to answer "what if" questions about the legislation. The Energy Office staff will find out additional information. It was mentioned that employees of Lowe's and Home Depot are being trained on products they should encourage customers to buy so they will benefit from the tax credits. Regulations have to be written to accompany the Energy Bill for better clarification. It was discussed that the Energy Act does not replace PURPA, but does amend it.

Please click here for a copy of the summary sheet that was distributed at the meeting.

VIII.SC Energy Forecast Model

Dr. John Clark reminded the Committee that South Carolina energy consumption and emissions projections through 2025 were reported at the meeting last spring. Since then, the Office, in collaboration with Dr. Yvonne Michel, prepared what-if scenarios projecting cost and emission differentials modeling the replacement of fossil fuel consumption with renewable energy sources.

Dr. Michel first presented updated energy cost projections with the most current pricing information.

The first scenario presented was the replacement of 15% of the projected increase in coal consumption by 2020 with Biomass (wood chips). Dr. Michel reported that over the 15 year period, $270 million is projected to be spent on coal that could be replaced by biomass.

She reported that CO2 emission rate is same for both coal and wood chips and no reductions in CO2 emissions would be realized with wood chip substitution for coal. But, in this scenario, SO2 emissions would be reduced by 20,400 tons and particulate matter would be greatly reduced (good metrics are not available to calculate actual reductions).

The second scenario presented was the replacement of 15% of the projected increase in gasoline consumption by 2020 with Ethanol. Dr. Michel reported that over the15 year period, $270 million is projected to be spent on gasoline that could be replaced by Ethanol.

In the second scenario, CO2 emissions would be reduced by $19.5 million metric tons, SO2 emissions would not be reduced, NOx emissions would be reduced by 83,584,186 Kgs, and particulate matter would be reduced by 25 percent.

The third scenario presented was the replacement of 15 percent of the projected increase in diesel fuel consumption by 2020 with Biodiesel fuel. Dr. Michel reported that over the15 year period, $435 million is projected to be spent on diesel that could be replaced by biodiesel.

In the third scenario, CO2 emissions would be reduced by 145.9 million metric tons, SO2 emissions would be reduced by 94 million Kgs, NOx emissions would not be reduced, and particulate matter would be reduced by 47 percent.

The question asked, based on these projections, was: could South Carolina profitably produce wood chips, Ethanol, and biodiesel in state with these projected, potential revenues?

Please click here for a copy of Dr. Michel's presentation.

Following Dr. Michel's presentation, the committee discussed the increase in energy based on gasoline prices. Chairman Reid encouraged the staff to use the model to demonstrate various alternatives of the use of alternative fuel and show the data associated with those scenarios.

Dr. Clark agreed that the staff would like to base scenarios and run assumptions on matters that would be of specific interest to the members.

IX. Energy Supply, Prices and Outlook

The discussion of the forecast model led into the topic of energy supply, prices and outlook.

The Committee discussed the increase in energy and gasoline prices, as well as the increase in supply and demand.

There was a brief discussion regarding the number of jobs that could be created through the use of biomass. There was also discussion regarding the challenges in getting better economic forecasts. Mr. Caughman stated that one of the challenges of the Energy Office is helping the Committee members sort through the data to get a better grasp and understanding to get to the right conclusion.

Mr. Logeman stated that certain baseline assumptions need first to be met, which show what is likely to happen if policy makers do not do anything. Various assumptions will then be developed around the given baseline, and the impact will be measured.

Discussion continued regarding ethanol prices rising with the price of gasoline. The committee discussed prices as far back as 1974 and discussed the energy supply then as compared to now.

Mr. Painter said that in 1995, the average price per decatherm of natural gas was $1.63. In 2000, it was $3.88, and last month it closed at $13.09. He said that in 2000, LINPAC Paper received a biomass grant and looked at the situation. He said the company determined that it made sense to do produce biomass to produce gas. They found a company that is running a cattle and hog waste biomass unit in Wisconsin, and two in England. LINPAC paper preferred to make paper instead of biomass. The company looked at purchasing land next to LINPAC and LINPAC agreed to take all of the gas at an agreed price. He said in Northern Spartanburg County, there is an enormous issue of new landfills and the citizens do not want a new landfill. Negotiations are in effect with County Council on the landfill and the costs associated with it. Mr. Painter said that he is not sure if the citizens of South Carolina have an interest in this type of production.

Ms.Vinson announced that she received an invitation from Wachovia Bank to attend a meeting in Charlotte regarding promoting sustainability. She reported that she attended the meeting and they want to create a regional center to bring all of the energy technologies together. She reported that various people were there from various universities in North and South Carolina, and representatives from the Chamber of Commerce. In this meeting, the group discussed the feasibility of making this regional center a reality.

Mr. C. P. Thomas gave comments regarding his thoughts on energy sources in the United States.

The Committee briefly discussed the rising gas prices and the state of the economy following the devastation of Hurricane Katrina.

Members were asked to complete meeting evaluations, and the meeting was adjourned at 3:25 PM.

Attachment A
Committee Members in Attendance

1. Mr. David Reid (Governor's Appointee);
2. Mr. Ken Cosgrove (representing oil supplier/dealer);
3. Mr. Bob Long (representing investor-owned gas companies);
4. Mr. James Painter (representing industrial consumers);
5. Mr. Gerald Caughman (representing individual consumer);
6. Ms. Nancy Vinson (representing environmental groups);
7. Mr. Mitch Williams (representing investor-owned electric companies);
8. Mr. Jim Cumberland (representing environmental group);
9. Mr. David Logeman (representing electric cooperatives);
10. Mr. Marc Tye (representing Santee Cooper);
11. Mr. Jim Grahl (representing commercial consumers);
12. Mr. Elliott Elam (Acting Consumer Advocate);
13. Mr. C.P. Thomas (representing commercial consumer);
14. Mr. Louis Krause (representing industrial consumer);
15. Mr. George Acker (representing investor-owned electric utility).

Absent Members:

Mr. Kenneth Barnett (representing municipally-owned electric utilities);
Mr. James Clark (representing propane supplier/dealer);

Mr. Eddie Plowden (representing electric cooperatives); and
Mr. Derrick Huggins (representing non-profit public transportation provider).

Vacancy for publicly-owned natural gas.

Staff Attending:

Dr. John Clark
Mr. Mitch Perkins
Mr. Richard Horton
Ms. Chantal Fryer
Ms. D'Juana Wilson
Mr. Matthew Brady
Ms. Renee' Daggerhart
Dr. Yvonne Michel